

Motor Resource Center

The MRC is a partnership of Advanced Energy and Washington State University Extension Energy Program.

The Motor Resource Center (MRC) is a national motor system resource that works with and for other organizations that have an interest in motor performance.

The MRC works to improve the design, application and operation of motors and motor-driven systems by bringing together private and public organizations to make motor systems increasingly productive, reliable and efficient.

MRC BENEFITS FOR:

- **MOTOR MANUFACTURERS:** accreditation services; certification of products for EPCA compliance; precision R&D testing; independent product evaluations and comparisons
- **MOTOR REPAIR FACILITIES:** performance certification program for repair services; testing of motors against customer specifications; before/after repair quality measurements
- **ALL INDUSTRIES:** selection of best new or replacement motor for a specific application; assistance in repair/replace decisions
- **OEMs:** application assistance for drives for variable-speed requirements or lightly-loaded motors
- **EV DRIVETRAINS:** performance testing of drive motors and controls

MRC PARTIAL LIST OF CLIENTS:

ABB • Baldor • BASF • Beijing Electric Motors • Brook Crompton • Broyhill Furniture • Cantoni • Cargill • Delta Mills • Dominion Resources • Duke Power Company • DuPont • Emerson • FUJI Electric • General Electric • Harriett & Henderson • Hitachi • Hoechst Celanese • Hyundai Heavy Industries • Leviton • Lincoln Electric • Magnetek • Milliken & Co. • Mitsubishi • Parkdale Yarns • PCS Phosphate • PdMA • Pharr Yarns • Progress Energy • Sara Lee Knit Products • Siemens • Sonoco • Springs Industries • Square D Corporation • Sumitomo • Tatum • TECO • Toshiba • UL • Unifi Spun Yarns • US Navy • W.W. Grainger • WEG Electric • Worldwide Electric

MRC MEMBERS:

Federal Government Agencies
Department of Energy

Motor Initiatives
MotorUp

Associations
CDA, Copper Development Association • NEMA, National Electrical Manufacturers Association • EASA, Electrical Apparatus Service Association • ACEEE, American Council for an Energy Efficient Economy

Utilities and Regional Utility-Funded Organizations
NEEA, Northwest Energy Efficiency Alliance • NEEP, Northeast Energy Efficiency Partnerships • MEEA, Midwest Energy Efficiency Alliance • Northeast Utilities • Duke Power • Progress Energy • N.C. Electric Membership Corporation

Industrial Motor Users
BASF • RJR • DuPont • Weyerhaeuser

Motor Manufacturers
Baldor • Emerson • WEG • Toshiba • Siemens • Leeson • GE • TECO

Motor Distributors
Kaman Industrial Technologies

Motor Service Centers
BJM Corporation • Brithinee Electric

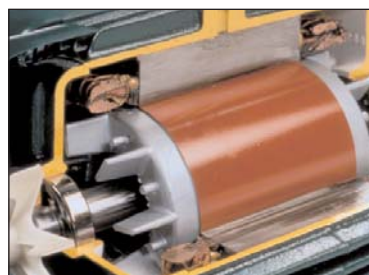
Media
Electrical Apparatus Magazine • Platts Research & Consulting, E Source Technology Assessment Group

Universities
University of Illinois • N.C. State University

State Organizations
California Energy Commission • NYSERDA, New York State Energy Research and Development Authority • Wisconsin Energy Office

MOTOR SYSTEMS RESEARCH

- Perform independent accredited testing on the performance of new and old motors and controls, delivering, repeatable results of ± 0.2 percent.
- Research issues affecting motor system reliability.
- Evaluate the market for existing and new motor system components.



MOTOR SPECIFICATIONS AND STANDARDS

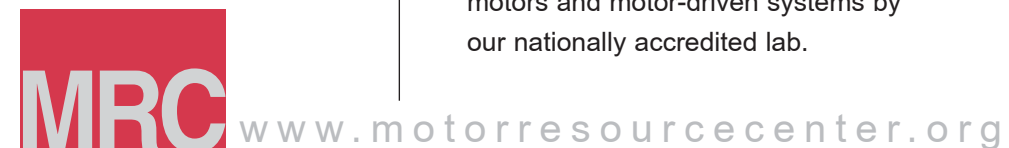
- Provide compliance certificate services from our NVLAP accredited lab and experienced motor policy consultants.
- Assist those who wish to obtain certification for their own labs by the National Voluntary Laboratory Accreditation Program (NVLAP).
- Verify alternative efficiency determination methods (AEDM) as required by EPCA laws.
- Offer product validation services to manufacturers or OEMs who need to verify performance characteristics of motors or motor systems.

MOTOR SYSTEMS MANAGEMENT

- Offer on-site industrial assessments focusing on motor surveys and motor systems management consulting.
- Deliver training workshops with optional continuing education credits, as have been hosted by federal agencies, utilities and others throughout the country.
- Provide repair shop verification, based on the MRC's Proven Excellence Verification (PEV) program.
- Provide conference presentation speakers upon request.

MOTOR SYSTEMS INFORMATION

- Offer motor systems analysis tools to increase productivity and reduce costs.
- Provide tip and fact sheets that illustrate appropriate applications of motor-driven systems and drives.
- Develop software tools and customization including the award-winning MotorMaster+ software and international motor selection and savings analysis software.
- Respond to hotline queries about motor and drive system purchase, performance, maintenance, etc. at www.oit.doe.gov/bestpractices/motors or 1-877-337-3463.
- Provide product assessments of motors and motor-driven systems by our nationally accredited lab.



MRC CASE STUDY:

The MRC is impacting the future of industry.

Motors are the largest of all cross-cutting technologies in industry and provide the greatest opportunities for energy savings.

Industrials consume 70 percent of their total electric energy through motors. Currently, the MRC is involved in a study that can appreciably impact the energy consumption in the United States and make its manufacturers more competitive.

Primary Objectives —

- Replace methods for estimating base-line energy use in all motor calculation software with fact-based data
- Obtain in-plant, historical data that will estimate the economic impact of reliability differences between new motors and older, rewind motors
- Update the horsepower breakpoint curves as distributed in DOE's *HorsePower Bulletin*, the most widely used motor decision tool in industry

With the hard data, the economics of the repair/replace decision could change significantly. The change will justify further penetration of NEMA Premium motors — which could boost the efficiency and reliability of the industrial motor population.

Project Partners —

MRC • NYSERDA • CEC • DOE •
Various Motor Manufacturers



MRC



For more information about the MRC, visit our website at www.motorresourcecenter.org or call Kitt Butler at 919-857-9017 or Rob Penney at 360-956-2053.

NATIONAL RESOURCE FOR MOTOR TESTING

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**IMPROVING THE DESIGN,
APPLICATION AND OPERATION
OF MOTORS AND
MOTOR-DRIVEN SYSTEMS**

